CLAIMS

1. Method for the closed-loop speed control of an internal combustion engine (1), in which a first control deviation (dR1) is computed from a speed variance comparison, a first set injection quantity (qV0) is computed from the first control deviation (dR1) by a speed controller (10), and a second set injection quantity (qV) is determined from the first set injection quantity (qV0) and another input variable (E) by a minimum value selector (11) for the closed-loop speed control of the internal combustion engine (1), characterized by the fact that in a first operating state of the internal combustion engine (1), the input variable (E) corresponds to a first injection quantity (qV1) (E = qV1), which is computed by means of a first characteristic curve (13); in a second operating state of the internal combustion engine (1), the input variable (E) corresponds to a second injection quantity (qV2) (E = qV2), which is computed by means of a second characteristic curve (14); and a change is made from the first characteristic curve (13) to the second characteristic curve (14) when a changeover condition is satisfied.

2. Method for closed-loop speed control in accordance with Claim 1, characterized by the fact that the changeover condition is satisfied if the first control deviation (dR1) becomes negative (dR1 < 0) and falls below a limit (GW) (dR1 < GW).

3. Method for closed-loop speed control in accordance with Claim 2, characterized by the fact that when the changeover condition is satisfied, the second characteristic curve (14) is initialized with the value (qV1(tS)) of the first injection quantity (qV1) at the changeover time (tS).

4. Method for closed-loop speed control in accordance with Claim 2, characterized by the fact that when the changeover condition is satisfied, the second characteristic curve (14) is initialized with the value (qV0(tS)) of the first set injection quantity (qV0) at the changeover

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time (tS).

5. Method for closed-loop speed control in accordance with Claim 4, characterized by the fact that when the changeover condition is satisfied, the second characteristic curve (14) is initialized with a larger value than the first set injection time (qV0) at the changeover time (tS).

6. Method for closed-loop speed control in accordance with any of Claims 3 to 5, characterized by the fact that the second characteristic curve (14) is used to reduce the second injection quantity (qV2), starting from the initialization value, to zero (qV2 = 0) or to a default value (qMIN) according to a transient response (qV2 = qMIN).

7. Method for closed-loop speed control in accordance with Claim 6, characterized by the fact that the default value (qMIN) is smaller than the idling injection quantity (qLL).

8. Method for closed-loop speed control in accordance with Claim 1, characterized by the fact that a second control deviation (dR2) is computed, and the changeover condition is satisfied if the second control deviation (dR2) becomes negative (dR2 < 0) and falls below a limit (GW) (dR2 < GW).

9. Method for closed-loop speed control in accordance with Claim 8, characterized by the fact that a first filtered actual speed (nM1(IST)) is the critical value for determining the first control deviation (dR1), and a second filtered actual speed (nM2(IST)) is the critical value for determining the second control deviation (dR2), such that the first filtered actual speed (nM1(IST)) and the second filtered actual speed (nM2(IST)) are computed from the actual speed (nM(IST)) of the internal combustion engine (1) by means of a first filter (12) and a second filter (17), respectively.

10. Method for closed-loop speed control in accordance with Claim 9, characterized by the fact that the first filter (12) detects a larger crankshaft angle than the second filter.

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11. Method for closed-loop speed control in accordance with any of the preceding claims, characterized by the fact that the input variable (E) of the minimum value selector (11) is set as a limiting value for the integral component of the speed controller (10).

TRANSLATION (P/4674-12 -- amended claim):

November 19, 2004

NEW CLAIM

1. Method for the closed-loop speed control of an internal combustion engine (1) that is provided as a generator drive or a marine propulsion unit, in which a first control deviation (dR1) is computed from a speed variance comparison, a first set injection quantity (qV0) is computed from the first control deviation (dR1) by a speed controller (10), and a second set injection quantity (qV) is determined from the first set injection quantity (qV0) and another input variable (E) by a minimum value selector (11) for the closed-loop speed control of the internal combustion engine (1), characterized by the fact that, in a first, steady operating state of the internal combustion engine (1), the input variable (E) corresponds to a first injection quantity (qV1) (E = qV1), which is computed by means of a first characteristic curve (13); in a second, dynamic operating state of the internal combustion engine (1), the input variable (E) corresponds to a second injection quantity (qV2) (E = qV2), which is computed by means of a second characteristic curve (14); and a change is made from the first characteristic curve (13) to the second characteristic curve (14) when a changeover condition is satisfied.